

REMARKS/ARGUMENTS

Claim 21-38 are pending. By this Amendment, the title is amended for consistency with the specification and claims 1-20 are canceled in favor of new claims 21-38. In addition, formal versions of Figures 3-9 are provided. Reconsideration in view of the above amendments and the following remarks is respectfully requested.

At the outset, the Patent Office is requested to update its records to reflect the July 1, 2002 102(e) date of the present application. The Office Action lists June 1, 2002 as the 102(e) date.

The title is amended to change "Gear Box" to one word "Gearbox" for consistency with the specification.

Claims 2-4 and 16 were rejected under 35 U.S.C. § 112, second paragraph. By this Amendment, claims 2-4 and 16 are canceled. In addition, the language specifically objected to by the Examiner has been addressed by replacement of the original claims with the new claims. For example, the Office Action indicates that "the three positions" in claim 2 (roughly corresponding to new claim 22) lacks antecedent basis. However, claim 21, from which claim 22 depends, recites that the shaft is movable to at least three different axial positions. Accordingly, recitation of the three positions and claims 22 and 23 has proper antecedent basis.

In addition, claims 23 and 24 have been written in a way so as to avoid the rejections applied to original claims 3 and 4.

In regard to the rejection of original claim 16, it is respectfully submitted that claim 33 defines a first pair of chambers such that "the pair of first chambers" in claim 37 has antecedent basis.

Reconsideration and withdrawal of the rejection are respectfully requested.

Claims 1-4 and 16 were rejected under 35 U.S.C. § 102(b) over Tischer et al., U.S. Patent No. 5,722,297. This rejection is respectfully traversed.

At the outset, original claims 1-4 and 16 are canceled by this Amendment. In as much as the rejection may apply to new claims presented herewith, Applicants provide the following comments.

New independent claim 21 recites a gear change mechanism for a gearbox in which changes of gear ratio in the gearbox are made mechanically in response to actuating signals. The mechanism includes first and second actuator assemblies each connected to a gearbox gear change selector. The selector is movable about an axis and in the direction of the said axis to a plurality of positions for effecting changes of gear in the gearbox, the first actuator assembly is arranged to move the selector in said axial direction between a plurality of axial positions, the selector having a radially outwardly directed arm, the second actuator assembly being directly drivingly connected to said arm to transmit reciprocal movement of the actuator to provide rotational movement of the selector about said axis between a plurality of rotational positions. Each of the first and second actuator assemblies includes a cylinder, a shaft located in the cylinder and drivingly connected to the selector, and a piston located about the shaft for movement

axially of the shaft. The cylinder shaft and piston together define chambers into which pressure fluid is selectively introduced so that the shaft is movable to at least three different axial positions. The shaft of the first actuator is substantially perpendicular to the shaft of the second actuator, and the gear change mechanism comprises two fluid control valves being selectively operable to admit fluid to the chambers and thereby move the shafts.

Tischer et al. does not teach or disclose this subject matter. Instead, Tischer et al. provides an actuator system for a gear shifting mechanism of motor vehicles that comprises two parallel actuators to displace a gear shifting shaft in an axial direction and to rotate the gear shifting shaft. The parallel nature of the actuator requires a kinematic coupling device to connect the actuators to the gear shifting shaft. Moreover, there is no provision for two valves to be able to move the shaft to at least three different axial positions.

Dependent claims 22-30 depending either directly or indirectly on independent claim 21.

Reconsideration and withdrawal of the rejection are respectfully requested.

Claims 5-15 and 17-20 were rejected under 35 U.S.C. § 103(a) over Tischer et al. This rejection is respectfully traversed at least because these claims have been canceled by this Amendment.

In regard to new claim 31, the gear change mechanism includes first and second actuator assemblies each connectable to a gearbox change selector, the selector having a

radially outwardly directed arm, the second actuator assembly being directly drivingly connected to said arm to transmit reciprocal movement of the actuator to the selector, the gear change selector being rotatable about an axis and being movable in the direction of said axis to a plurality of positions for effecting changes of gear ratio in the gearbox. The shaft of the first actuator is substantially perpendicular to the shaft of the second actuator, and two fluid control valves control the movement of the shaft.

By contrast, Tischer et al. provides an actuator system for a gear shifting mechanism of motor vehicles which comprises two parallel actuators. In addition, Tischer et al. does not include the provision for two valves to be able to move the shaft between a plurality of positions.

Dependent claims 32-38 depend either directly or indirectly on independent claim 31.

It should be noted that original claims 9 and 20 recited two valves selectively operable to admit fluid to the chambers to move the shaft. However, the Office Action did not address either claims 9 and 20 in the Office Action.

Reconsideration and withdrawal of the rejection are respectfully requested.

Attached hereto is a Submission of Original Declaration which includes the original version of the facsimile Declaration originally filed with this application.

In view of the above amendments and remarks, Applicants respectfully submit that all the claims are patentable and that the entire application is in condition for allowance.

MEPHAM, S. et al.
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Should the Examiner believe that anything further is desirable to place the application in better condition for allowance, he is invited to contact the undersigned at the telephone number listed below.

Respectfully submitted,

NIXON & VANDERHYE P.C.

By: _____



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PTB:jck
Attachments:
Replacement Figs. 3-9
Submission of Original Declaration

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